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CLAIMS

     1. Method for estimating from an input signal the resonance frequencies of a system modelled as a source and a filter, comprising the steps of

5 - determining the Z-transform of said input signal,

  - calculating the differential-phase spectrum of said Z-transformed input signal, said Z-transform thereby being evaluated on a circle centered around the origin of the Z-plane,

10 - detecting the peaks on said differential-phase spectrum,

  - attributing said peaks to either said source or said filter,

  - estimating said resonance frequencies from said peaks.

     2. Method for estimating the resonance

15 frequencies as in claim 1, wherein said circle is different from the unit circle in the Z-plane.

     3. Method for estimating the resonance frequencies as in claims 1 or 2, wherein said Z-transform of said input signal is evaluated on more than one circle.

20   4. Method for estimating the resonance frequencies as in any of the previous claims, wherein said input signal is windowed.

     5. Method for estimating the resonance frequencies as in any of the previous claims, wherein said

25 input signal is a speech signal.

     6. Method for estimating the resonance frequencies as in any of the previous claims, wherein said source is a glottal flow signal.

     7. Method for estimating the resonance

30 frequencies as in any of the previous claims, wherein said filter is a vocal tract system.

     8. Method for estimating the resonance frequencies as in any of the previous claims, wherein the

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step of attributing said peaks is performed based on the sign of said peaks.

9. Method for estimating the resonance frequencies as in claim 8, wherein said step of attributing is further based on the radius of said circle.

10. Method for estimating the resonance frequencies as in any of the previous claims, further comprising the step of removing zeros of said input signal's Z-transform before performing the step of calculating said differential-phase spectrum.

11. A program, executable on a programmable device containing instructions, which, when executed, perform the method as in any of the previous claims.